

12.0 INFRASTRUCTURE AND ENERGY

12.1 Introduction

The Applicant is proposing a commercial baseball-centered recreation facility, Brewster Yards, on approximately 82 acres of land located on Pugsley Road and Fields Corner Road in the Town of Southeast, Putnam County, New York.

The proposed project would be an indoor and outdoor baseball-centered facility. The project is expected to be completed in 2023. Brewster Yards would include the following amenities: nine (9) baseball/little league fields, one (1) multi-purpose field, concession buildings, support buildings, and \pm 35,000 square foot indoor recreation facility.

Brewster Yards is to be utilized year-round. The hours of operation are planned to be as follows: Monday through Friday: 10am to 10pm – on season, 3pm to 10pm - off season/winter; Saturday, Sunday, and Holidays: 8am to 10pm.

The Applicant's projections of site usage are based on similar facilities in the Northeast region. Weekday afterschool and weekend patronage during the baseball season is projected to be up to 1023 persons -- players, spectators and staff. On school days, after-school field use is expected to be up to 358 persons. During peak use the project is anticipated to employ up to 63 people.

The proposed project would create new demands for potable water supply, electric supply and for sanitary wastewater disposal. This section evaluates the potential impacts for the new demands created by the project on the local infrastructure and energy systems.

12.2 Existing Conditions

12.1.2 On-site Water Supply - Existing Conditions

The project site is undeveloped and does not currently have a water supply system in place or available for public use. Any new development will need to obtain potable water from drilled groundwater wells.

The project site is located within the watershed of the New York State Wetland LC-28 and an unnamed tributary to Middle Branch Reservoir. Three ponds and several watercourses were identified on the project site. Figures in chapter 9 illustrate surface waters on and near the project site. The project site is not located over, or immediately adjoining, a primary, principal, or sole source aquifer.

Information about the existing groundwater resources in the project area is taken from groundwater investigations conducted at the neighboring property to the west. The DEIS for Northeast Interstate Logistics Center identified three groundwater wells that were pump tested in 2004 and demonstrated sustainable yields of 30 gallons per minute (gpm), 56 gpm and 60 gpm. Figure 12-1 reproduces the Well Location map from that study. Two of these wells are proposed to be used for water supply of the Logistics project (wells OW-3 and NW-4). Water samples collected and tested from the three wells were found to meet New York State Subpart

5-1 drinking water standards in 2004. Additionally, the testing found no direct hydraulic connection between the groundwater tapped by these bedrock wells and surface waters.

12.2.2 On-site Sanitary Wastewater - Existing Conditions

The project site is currently undeveloped, forested land and does not currently have a wastewater system in place or available to it. The project site includes areas of steep slopes, ridgeline, and wetlands, however in certain areas the underlying site conditions have been determined to be suitable for an onsite subsurface treatment system (conventional septic system). Refer to Section 8.0 of this DEIS for a detailed discussion of the geology and soils underlying the project site and Appendix D for the Preliminary Wastewater Engineer's Report prepared by Insite Engineering. As noted in the Engineer's Report, the underlying site conditions have been found to be suitable for an onsite subsurface treatment system (conventional septic system).

The following information is taken from the USDA *Soil Survey* to summarize the general characteristics of the existing soil types mapped by USDA NRCS in the area identified for installation of the on-site septic field. It is noted that the soil mapping unit boundaries and listed "limitations" are generalized for the purposes of the *Soil Survey* and do not substitute for the in-field investigations (percolation / infiltration testing and deep test pit inspections) that were used for design of the subsurface sewage treatment system (SSTS).

- Charlton-Chatfield complex (**CrC**) - moderate slopes (3-15%), very rocky;
 - Chartton portion is $\pm 50\%$;
 - Chatfield portion is $\pm 30\%$;
 - Limitations to construction of subsurface septic systems relate primarily to depth to rock;
- Chatfield-Charlton complex (**CsD**) - slopes (15-35%), very rocky;
 - Chatfield portion is $\pm 45\%$;
 - Chartton portion is $\pm 35\%$;
 - Limitations to construction of subsurface septic systems relate to slopes and depth to rock;
- Charlton is deep to a restrictive layer (>80");
- Chatfield may have bedrock at 20" to 41" depth;
 - Both are upland soils, depth to water table >80";
 - Neither is prone to flooding.

Testing data collected from test pits dug in the area of the proposed septic field confirm that there is no bedrock or groundwater at depths of at least 84 inches below the ground surface. See Figures 12-2 and 12-3.

12.2.3 Electrical Supply - Existing Conditions

Currently, the project site does not have electric services from New York State Gas and Electric Corporation (NYSEG). However electric services appear to exist nearby on Fields Corner Road to the north, on Pugsley Road to the south, and at the Putnam County property to the east.

12.3 Future without the project

12.3.1 Water Supply, Wastewater Disposal, and Electric Supply

The project site would remain in its current undeveloped condition and would not present any demands for water and energy supply nor create a need for the disposal of sanitary wastewater in the scenario of a future without the project. These services would likely not be extended to the project site without any known need.

12.4 Potential Impacts

12.4.1 On-site Water Supply Impacts

Water supply for the project site would be provided by a new public water supply system including on-site water wells. This new water system would be designed and constructed in accordance with the standards and subject to the approval of the Putnam County Department of Health (PCDOH).

The average daily water design flow for Brewster Yards is based on the hydraulic loading rates published in the New York State Department of Environmental Conservation (NYSDEC) publication of Design Standards for Intermediate Sized Wastewater Treatment Systems (NYSDEC, 2014) which were utilized to calculate the average daily sewer design flows for the proposed project.

As noted throughout this document, Brewster Yards is expected to be utilized by patrons most during weekend hours than during weekday operations. Due to the fluctuation of project site visitors throughout the entire week, a design flow was calculated for an average weekday and weekend. The proposed water wells on-site would need to yield 3,476 gallons per day (gpd) during weekdays and 30,132 gpd on the weekends. No irrigation is proposed.

The water system for the project would be designed to meet the peak hourly demand on a weekend day of 30,132 gpd. The average hourly flow calculated for the proposed project is 28 gpm. The peak hourly flow for the project's water system was calculated using a peaking factor of four (4) resulting in a peak hourly flow of 112 gpm.¹

The main recreation building would be equipped with a sprinkler system supplied from a water storage tank. During the design of the building plans, fire sprinkler demands for this system would be calculated by the project's mechanical engineer and provided in the building construction plans.

The project's potable water and fire protection supply is proposed to be provided by a minimum of two advanced water wells that would meet the required maximum daily demand of 60,264 gpd or 42 gpm with the best well out of service.² Two or more wells would need to be developed to meet the 42 gpm demand with the best well out of service, in accordance with the applicable standards.

Exploration for the groundwater water supply will include a 72-hour pump test to demonstrate there is an adequate supply of potable water for Brewster Yards during operation as well as for

¹ Source: Putnam County Health Department – Peak Hourly Flow fate of four (4).

² Calculation: 60,264 gpd is two times the average daily flow of 30,132 gpd.

fire protection, with no significant adverse effects on any nearby water well. Refer to Appendix C for the Preliminary Water Engineer's Report including further details pertaining to the development of the public water supply for the proposed project.

12.4.2 On-site Sanitary Wastewater Impacts

Proposed Subsurface Sewage Treatment System (SSTS)

A subsurface sewage treatment system (SSTS) is proposed to be constructed on the project site to treat the wastewater generated by the project for which permits/approvals will be required from NYSDEC and New York City Department of Environmental Protection (NYCDEP). The hydraulic loading rates published in NYSDEC publication of Design Standards for Intermediate Sized Wastewater Treatment Systems (NYSDEC, 2014) were utilized to calculate the average daily sewer design flows for the proposed project.

Due to the fluctuation of project site visitors anticipated throughout the week, as described above, a design flow was calculated for an average weekday and weekend. The volume of sanitary wastewater expected to be generated at Brewster Yards would be 3,476 gpd on weekdays and 30,132 gpd during weekend days. A design flow of 11,092 gpd would be utilized for the proposed project based on the average flow for a full week. Refer to Appendix D, Preliminary Wastewater Engineering Report, for detailed calculations associated with the design of the project sanitary treatment system.

The wastewater collection system is proposed of individual sewer service connections with cleanouts from each proposed building associated with Brewster Yards. The sewer service would connect to via a sewer main to proposed septic tanks. To accommodate fluctuations in daily site populations, the project will utilize a septic storage and dosing system to even out the flow to the SSTS. The SSTS area shown on the project plan will include the required primary and 100 percent reserve absorption areas.

The SSTS area is proposed on the southeastern portion of the northern parcel. In December 2020, deep test holes were advanced and percolation testing performed on the project site to confirm depth of suitable soil and percolation rate of the site's soil in the SSTS area shown on the plans. Soil testing on the project site was conducted in the presence of staff from Insite Engineering, Surveying, and Landscape Architects, P.C., and Putnam County Health Department. The results of the soil testing demonstrated acceptable soils for this use per pertinent regulations. Refer to engineer's information in Figures 12-2 and 12-3 showing the soil testing information.

Infiltration and recharge of a portion of the water withdrawn from the groundwater aquifer back into the groundwater system through the use of an onsite septic system will reduce the consumptive water withdrawal of the project.

With effluent levels above 5,000 gpd, a groundwater mounding analysis is required to evaluate the potential/extent of groundwater mounding in the area of the proposed SSTS. A mounding analysis will be conducted using the Hantush Equation for "Formation of a Groundwater Mound Under a Rectangular Recharge Area" (Hantush, 1967). The Hantush Equation for groundwater mounding is commonly used by hydrogeologists to determine the effects of subsurface discharge to the groundwater table or an underlying low permeability strata such as clay or bedrock. Findings will be reported in the Final Environmental Impact Statement (FEIS).

12.4.3 Electrical Supply Impacts

The New York State Electric and Gas Corporation (NYSEG) service area includes the project site. Extension of existing electrical service will be required from one of the three nearby systems to service the project.

The total peak electric load at the site is estimated to be 850kW, including service to the recreation building for its full usage, to all the proposed fields for sports lighting and scoreboards, and throughout the site for lighting, concessions and other patron amenities. With the end of a service line present at the County-owned parcel on former Zimmer Road (via a line over Interstate 84), this line may provide a nearby connection for the project.

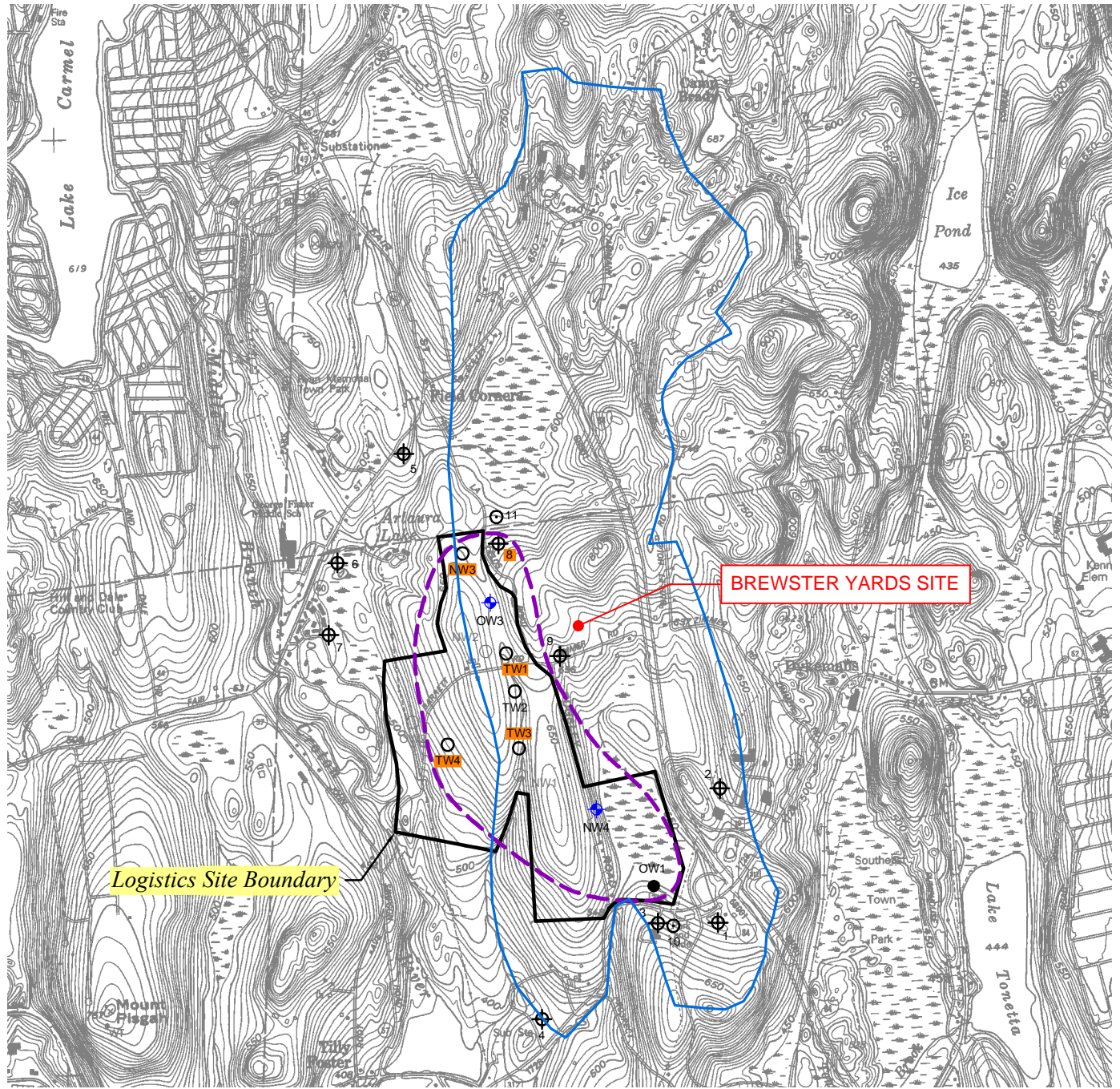
An inquiry via email was sent to NYSEG on December 7, 2021, requesting distribution line confirmation and additional information about hook up access to the project site. An additional request was placed into a NYSEG representative on December 10, 2021, requesting information and cost of new electric service for the estimated peak operational electric load of the proposed project. No response from NYSEG has been received.

The estimated project load is not considered to be significant for a typical suburban power grid, however further determination will be necessary from NYSEG. If potential impact on the available electric service capacity is identified, it will be addressed in the FEIS prepared for Brewster Yards.

12.5 Mitigation Measures

Based on the information available at the time of preparation of this document regarding groundwater supply, wastewater assimilation capacity on the site and electric supply available to the site, no unusual mitigation measures are proposed.

Adequacy of the groundwater supply to service this project will need to be proven based on the results of on-site well drilling and testing, in accordance with the applicable regulatory requirements and permit. Appropriate treatment and infiltration of sanitary effluent produced from the project during full occupancy will need to be demonstrated in order to obtain the requisite permits to operate the system. Likewise, an adequate electric service connection will need to be obtained from the available electric grid, meeting all requirements of NYSEG, the service provider.



SOURCE: USGS DIGITAL QUADRANGLE LAKE CARMEL AND BREWSTER, NEW YORK.

LEGEND

- PUMPING WELL (1992 AND 2004)
- ⊕ PUMPING WELL (1992 and 2004) PROPOSED AS SUPPLY WELL FOR NORTHEAST INTERSTATE LOGISTICS CENTER
- ⊕ OFFSITE MONITORING WELL (JUNE 1992)
- ⊕ OFFSITE MONITORING WELL (MARCH 2004)
- ONSITE MONITORING WELL
- ONSITE WELL NOT MEASURED
- WATERSHED FOR ONSITE PUMPING WELLS
- DRAWDOWN MEASURED IN MONITORING WELL DURING JUNE 1992 AND/OR MARCH 2004 PUMPING TEST
- - - APPROXIMATE AREA OF INFLUENCE IN BEDROCK AQUIFER FROM PUMPING ONSITE WELLS BASED ON JUNE 1992 AND MARCH 2004 PUMPING TESTS



**NORTHEAST INTERSTATE LOGISTIC CENTER
SOUTHEAST, NEW YORK**

WELL LOCATION AND WATERSHED MAP


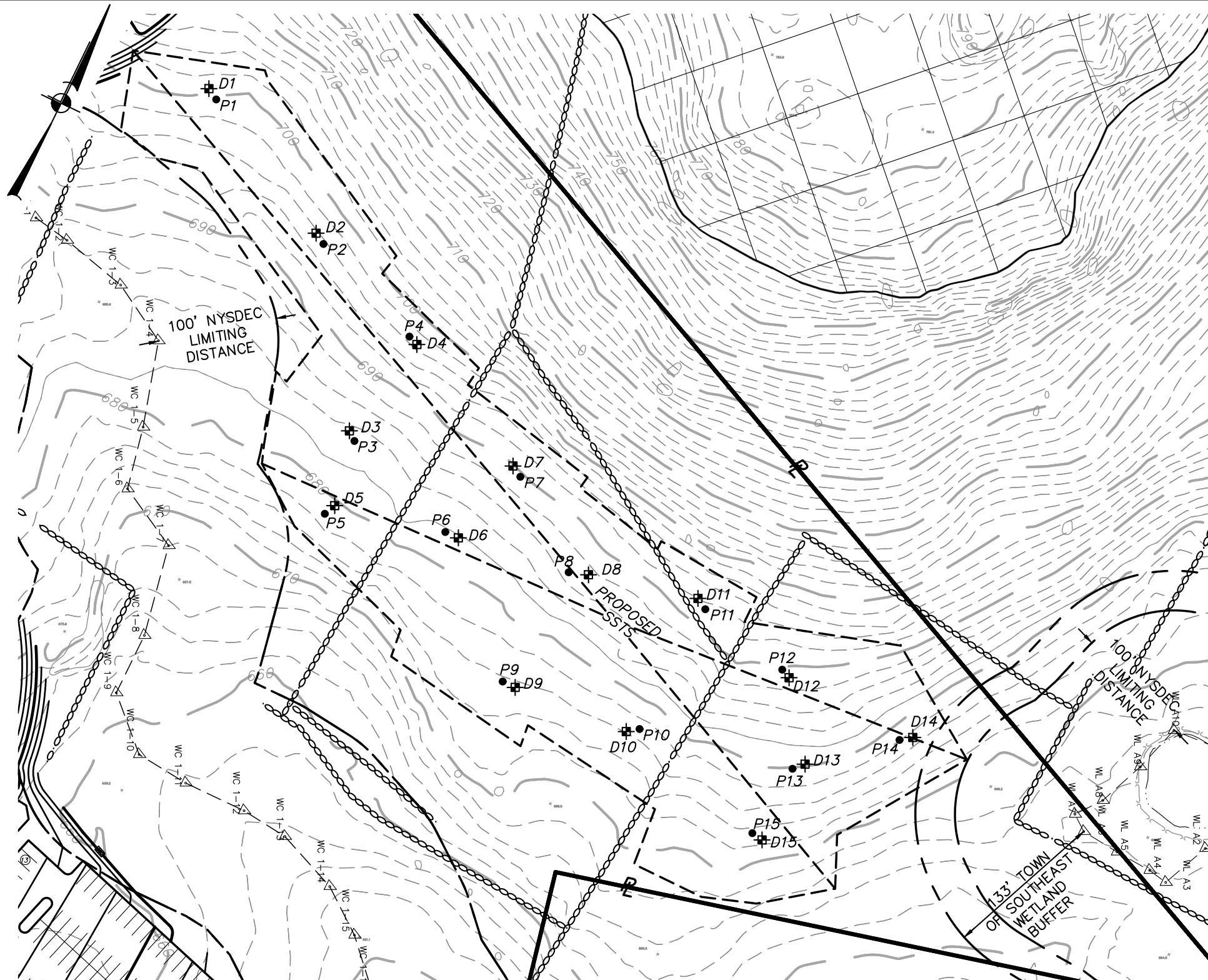
DATE	REVISED	PREPARED BY:
		 WSP USA 4 Research Drive Suite 204 Shelton, Connecticut 06484 (203) 929-8555
DRAWN:	RAC	CHECKED: SS
		DATE: 03/12/18
		FIGURE: III.F-1

Figure 12-1: Well Location and Watershed Map

Source of this figure: Draft Environmental Impact Statement, Northeast Interstate Logistics Center, prepared by JMC, dated June 2018.



SITE PLAN
SCALE: 1" = 100'

LEGEND

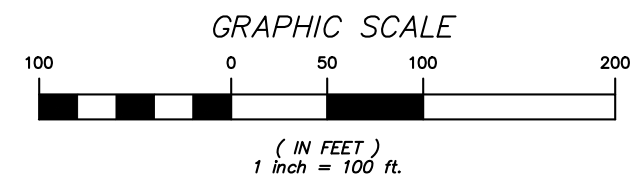
	EXISTING PROPERTY LINE
	DEEP TEST HOLE
	PERCOLATION TEST HOLE
	EXISTING STONE WALL
	EXISTING WETLAND FLAG
	EXISTING 10' CONTOUR
	EXISTING 2' CONTOUR

GENERAL NOTES:

1. Property lines shown taken from map entitled "Map of Alienation Parcels Prepared for Proswing..." dated March 6, 2020 prepared by Insite Engineering, Surveying, and Landscape Architecture P.C
2. Existing topography and site features shown hereon derived from Aerial Photogrammetry, created from a drawing entitled "Pugsley Road", by Geomaps International photo dated November 30, 2019 and obtained January 13, 2020. Elevations show hereon are in vertical datum NAVD 88. The contour interval is 2'.
3. Wetlands shown hereon were flagged by Ecological Analysis on November 27, 2019 and field located by Insite Engineering, Surveying, and Landscape Architecture P.C. on December 18, 2019.
4. NYCDEP watercourses within the vicinity of a NYSDEC wetland are assumed to located within the NYSDEC wetland boundary.

SOIL TESTING NOTE:

This map is provided to illustrate the Deep Test and Percolation Test locations witnessed by Insite Engineering, Surveying & Landscape Architecture, P.C., Putnam County Department Of Health & New York City Department of Environmental Protection for the design of the SSTS.



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PROJECT:	BREWSTER YARDS 160 & 132 PUGSLEY ROAD, TOWN OF SOUTHEAST, PUTNAM COUNTY, NY
DRAWING:	SSTS WITNESSED SOIL TESTING

PREPARED BY:

INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place • Carmel, New York 10512
Phone (845) 225-9690 • Fax (845) 225-9717
www.insite-eng.com

DATE:	02-28-22
SCALE:	1" = 100'
PROJECT NO.:	19249.100
FIGURE:	1

Figure 12-2
**SSTS Witnessed Soil Testing
BREWSTER YARDS DEIS**
Town of Southeast, Putnam County, New York

DEEP TESTS

DEEP TESTS OBSERVED: 12-11-20

DEEP TESTS OBSERVED BY:
ERIC SCHLOBOHM, PE, & KIRSTEN MILLER, INSITE ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.

DEEP TESTS D 1 – D 15 WITNESSED BY: GENE REED, PUTNAM COUNTY
DEPARTMENT OF HEALTH & MELISSA NG, NYC DEP ON 12-11-20

NOTE: NO GROUNDWATER, MOTTLING, OR ROCK ENCOUNTERED
UNLESS NOTED.

D 1: 0"-12": TOPSOIL
12"-24": RED BROWN SANDY LOAM
24"-84"+: MEDIUM BROWN FINE SAND

D 2: 0"-12": TOPSOIL
12"-24": RED BROWN SANDY LOAM
24"-72": MEDIUM BROWN FINE SAND
72"-96"+: LIGHT BROWN FINE SAND

D 3: 0"-12": TOPSOIL
12"-30": RED BROWN SANDY LOAM
36"-66": MEDIUM BROWN FINE SAND
66"-92"+: LIGHT BROWN FINE SAND

D 4: 0"-12": TOPSOIL
12"-24": RED BROWN SANDY LOAM
24"-66": MEDIUM BROWN FINE SAND
66"-92"+: LIGHT BROWN FINE SAND

D 5: 0"-12": TOPSOIL
12"-36": RED BROWN SANDY LOAM
36"-100"+: MEDIUM BROWN FINE SAND

D 6: 0"-12": TOPSOIL
12"-30": RED BROWN SANDY LOAM
30"-92"+: MEDIUM BROWN FINE SAND

D 7: 0"-12": TOPSOIL
12"-24": RED BROWN SANDY LOAM
24"-60": MEDIUM BROWN FINE SAND
60"-92"+: LIGHT BROWN FINE SAND

D 8: 0"-12": TOPSOIL
12"-24": RED BROWN SANDY LOAM
24"-66": MEDIUM BROWN FINE SAND
66"-96"+: LIGHT BROWN FINE SAND

D 9: 0"-12": TOPSOIL
12"-24": RED BROWN SANDY LOAM
24"-87"+: MEDIUM BROWN FINE SAND

D 10: 0"-12": TOPSOIL
12"-30": RED BROWN SANDY LOAM
30"-84"+: MEDIUM BROWN FINE SAND

D 11: 0"-12": TOPSOIL
12"-30": RED BROWN SANDY LOAM
30"-80": MEDIUM BROWN FINE SAND
80"-96"+: TAN SAND

D 12: 0"-6": TOPSOIL
6"-18": RED BROWN SANDY LOAM
18"-70": MEDIUM BROWN FINE SAND
70"-86"+: TAN SAND W/ DEGRADED ROCK

D 13: 0"-12": TOPSOIL
12"-24": RED BROWN SANDY LOAM
24"-96"+: MEDIUM BROWN FINE SAND

D 14: 0"-6": TOPSOIL
6"-18": RED BROWN SANDY LOAM
18"-48": MEDIUM BROWN FINE SAND
48"-84"+: TAN SAND

D 15: 0"-6": TOPSOIL
6"-18": RED BROWN SANDY LOAM
18"-88"+: MEDIUM BROWN FINE SAND

PERCOLATION TESTS

TEST PERFORMED: 12/11/20

TEST PERFORMED BY: ERIC SCHLOBOHM, P.E., KIRSTEN
MILLER, & CHRIS ZAZZERO, INSITE ENGINEERING, SURVEYING
& LANDSCAPE ARCHITECTURE, P.C.
WITNESSED BY: GENE REED PUTNAM COUNTY DEPARTMENT
OF HEALTH

<u>P 1:</u>	9 MIN	<u>P 9:</u>	5 MIN
<u>P 2:</u>	10 MIN	<u>P 10:</u>	5 MIN
<u>P 3:</u>	8 MIN	<u>P 11:</u>	8 MIN
<u>P 4:</u>	7 MIN	<u>P 12:</u>	15 MIN
<u>P 5:</u>	7 MIN	<u>P 13:</u>	3 MIN
<u>P 6:</u>	11 MIN	<u>P 14:</u>	10 MIN
<u>P 7:</u>	8 MIN	<u>P 15:</u>	15 MIN
<u>P 8:</u>	7 MIN		

PROJECT: **BREWSTER YARDS**
160 & 132 PUGSLEY ROAD, TOWN OF SOUTHEAST, PUTNAM COUNTY, NY

DRAWING: **SSTS WITNESSED SOIL TESTING**

PREPARED BY:



3 Garrett Place • Carmel, New York 10512
Phone (845) 225-9690 • Fax (845) 225-9717
www.insite-eng.com

DATE: 02-28-22
SCALE: AS NOTED
PROJECT NO.: 19249.100
FIGURE: 2

Figure 12-3
SSTS Witnessed Soil Testing
BREWSTER YARDS DEIS
Town of Southeast, Putnam County, New York

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